THE eXPERIMENT

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Battlelab looks at two initiatives

By 1st Lt. Clay Sanford
U.S. Air Force Command and Control Battlelab Public Affairs

HURLBURT FIELD, Fla. – Two promising initiatives from the Air Force Command and Control Battlelab are being demonstrated here at the Joint Expeditionary Force eXperiment.

One such experiment deals with a new convergence of current technologies to reduce the logistical burden of deploying cumbersome and complicated command and control systems.

The initiative is called "Reduced Hardware Footprint," and it dramatically diminishes the volume and weight of equipment that has to be carried to support deployed operations. This contemporary system utilizes wireless local access networks, advanced flat panel

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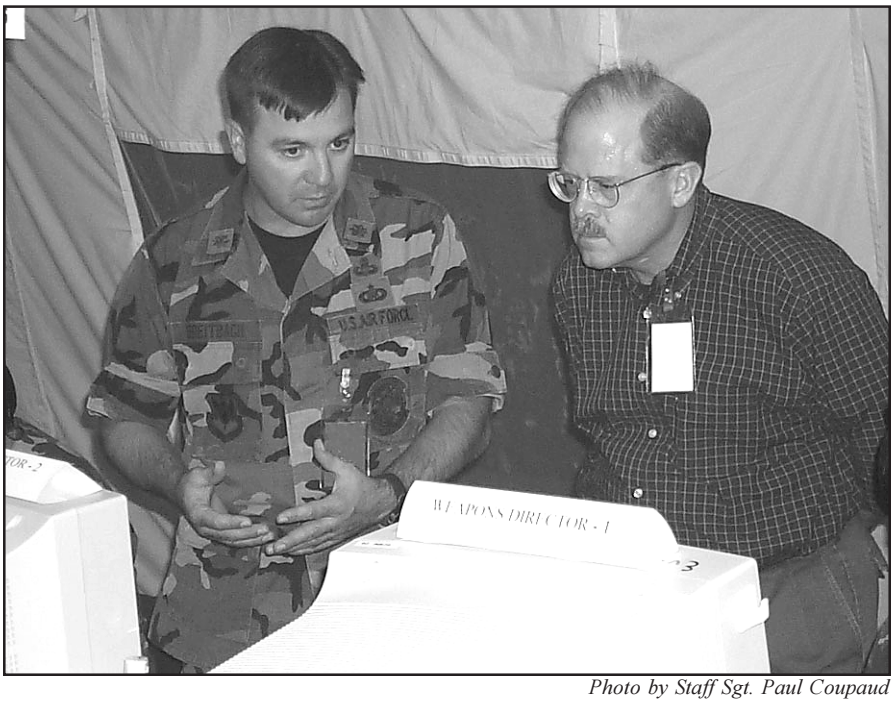

Photo by Staff Sgt. Paul Coupaud

SECAF visits Nellis

Maj. Richard Breitbach, the Nellis Air Force Base, Nev., Joint Expeditionary Force eXperiment mission crew commander and a member of the 133rd Air Control Squadron from the Iowa Air National Guard, explains the mission of his Battle Control Center team to Secretary of the Air Force Whit Peters as he tours the BCC.

JEFX explores mobility challenges, missions

Experiment scenario adds realism, pushes AMC resources, capabilities

By Capt. D.D. Magaldi
JEFX Public Affairs

LANGLEY AIR FORCE BASE, Va. – Air Mobility Command is participating in force during Joint Expeditionary Force eXperiment '99 and bringing with it an even higher level of realism than last year's participants experienced.

"Exercise scenarios are generally compressed and begin well into the fight, with our military forces, supplies, fighter and bomber aircraft already in the area of responsibility," said Lt. Col. Rich Walberg, AMC assessor and Air Mobility Warfare Center deputy director. "That scenario assumes that AMC successfully delivers all the necessary resources for a theater commander to fight a war.

"JEFX puts more realism into the scenario and brings a full array of AMC missions on board," Walberg continued. "The JEFX scenario will make delivery of our military resources a lot harder and a lot more realistic."

This added realism will allow JEFX participants to experiment with an initiative designed to integrate all sorties into a theater commander's Air Tasking Order. Up to this point a commander knew a great deal about his fighter and bomber sorties, because those missions are detailed in the ATO. But, the commander often didn't have a clear picture of AMC resources and capabilities at his disposal.

Getting all flying activities into the ATO will give the commander more control, allow planners to identify and deconflict sortie problems

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Experiment redefines 'going to war'

By Staff Sgt. Paul Coupaud
JEFX Public Affairs

NELLIS AIR FORCE BASE, Nev. – "Going to war" could have a new meaning for the Air Force warfighters of the future.

Aircraft may still cross the miles to engage an enemy but much of the command and control structure previously required in dangerous forward locations could soon remain back in the states in the form of the battle control center.

Experimenting with a BCC for the first time this year in the Joint Expeditionary Force eXperiment, the Air Force is looking at ways to rapidly evolve its war fighting capabilities. As our aerospace power reaches its global destinations, the Air Force is also flexing its battle control muscles and extending the current command and control capabilities that run the air war and task our defenders against targets.

"The battle control center is a brand new concept," said Lt. Col. David Ott, BCC director at Nellis Air Force Base, Nev. "We're trying to move information instead of people and the BCC concept brings all the radar and sensor data to one location and allows us to fight dynamically. Instead of waiting for intelligence reports and assessments to come in, we can now see the most current information on screen in real time and re-task aircraft in the air against higher priority targets – this is something we haven't been able to do before."

Photo by Staff Sgt. Paul Coupaud

The Battle Control Center is on-line and ready to go to war.

> ***"The BCC ties all the command and control nodes together and gives us the capability to move information to the aircraft very rapidly from virtually anywhere we want."***
>
> – Col. Curt Neal
> Nellis JEFX director

The informational benefits the BCC brings to war fighters is two-fold – not only will Air Force leaders have the ability to make decisions with all the real time battle information at their fingertips, many of them will be able to do it from the states. Those units that do deploy to forward locations will present a much smaller and more effective footprint than ever before. For instance, the required cargo to support telephone capabilities could be reduced from an entire tractor-trailer full of equipment to only a few containers. The state of the art equipment in those containers not only weighs less and takes less space, but also brings much more capability to the user than was previously possible in the past. Additionally, the number of communications people deployed drops from 120 down to 50.

"We don't want to deploy people and equipment during a war if those people can stay back in the states and transfer information back and forth and still accomplish the mission," said Col. Curt Neal, the Nellis JEFX director. "The BCC ties all the command and control nodes together and gives us the capability to move information to the aircraft very rapidly from virtually anywhere we want."

Neal said contractors and military personnel have worked throughout the summer getting all the information in place and have started working through a lot of the concept of how the BCC will work when it's all up and running.

"JEFX is cutting years out of the process of getting this new technology to the field," said Neal. "Not days or weeks, but years. This brings new technology to our operators much sooner than ever could be done before."

The eXperiment

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En route EOC gets new capabilities

Computer, satellite communication equipment receive upgrades

By Capt. Dale VanDusen
366th Wing executive officer

MOUNTAIN HOME AIR FORCE BASE, Idaho – In the past, while en route to a deployed location, leadership could receive little or no information on status of our own forces or of activities within the theater. They had even less ability to direct forces or make further arrangements at the deployed site.

That has all changed with the return of the en route expeditionary operations center to the 366th Operations Support Squadron. Created as an Air Expeditionary Force Battlelab initiative and demonstrated in Expeditionary Force eXperiment '98, the en route EOC is now back in the Gunfighters's hands.

The computer and satellite communication equipment modified cargo pallets were recently upgraded at Boeing's Wichita, Kan., flight facility. Boeing also modified two of the 22nd Air Refueling Squadron's KC-135R tankers with a broad array of necessary antennas, power and cabling.

The modifications are all part of an effort to better evaluate the en route EOC concept during JEFX '99. This year the en route EOC adds worldwide telephone connectivity while airborne, or at a "cold" deployed base.

To do this, the en route EOC uses INMARSAT and Iridium, both commercial portable systems. Fax and text messaging are also available. Security forces, medical and services personnel will now be able to call ahead to obtain the latest status on a deployed base.

"The en route EOC is especially valuable when the wing deploys with short notice," said Col. Larry Butler, 366th Wing vice commander. "We may have little information on the base we are going to and need to get that information and make arrangements while en route."

Also added for this year is the ability to "surf" the Department of Defense classified Web – the SIPRNET.

Courtesy photo

366th Wing Gunfighters from Mountain Home Air Force Base, Idaho, prepare to load the en route Expeditionary Operations Center into a KC-135R Stratotanker.

"The SIPRNET is our best way to get the most current imagery intelligence," said Maj. Theresa Pobst-Martin, 366th Wing chief of intelligence.

"This capability en route to a hotspot will greatly speed our decision cycle and enable our squadrons to strike quickly and effectively," Martin said.

Intelligence operators can also watch CNN or other news sources while airborne, which usually has informative coverage of a region in crisis.

The en route system retains its core capability of receiving an air tasking order, determining tasks and creating the mission packages. This is essential, officials say, to being ready to fly combat missions within hours after our bombers and fighters arrive in-theater.

Once the EOC tanker lands at the deployed location, the system can be off-loaded and quickly set up with portable antennas to continue the planning.

The en route EOC now has two pallets, connected to provide the operators with computer, communication and other planning tools. Seating for 14 complements the standard seat pallets placed onto the KC-135R for deployments.

The en route EOC becomes a command and control aircraft with combat planners, intelligence operators, weather forecasters, a mission planning cell and the wing commander. Logistics, support and medical group personnel necessary to establish presence and warfighting capability at the deployed base also accompany the wing commander.

The system, still officially experimental, should mature greatly in the upcoming years.

It was recently assigned as an official program at the Electronic Systems Center at Hanscom Air Force Base, Mass. Together, the aircraft, palletized equipment and people can form a significant deployment capability for the wing.

CAOC experiments with future of C2

By Staff Sgt. Karin Wickwire
The eXperiment Editor

HURLBURT FIELD, Fla. – In a war-time situation, whether it's real, an exercise or an experiment, there is a forward command and control presence to plan and direct the air campaign which can be critical to winning a war.

During the Joint Expeditionary Forces eXperiment the forward C2 presence is the Combined Aerospace Operations Center located at Hurlburt Field.

This year, the CAOC is trying to better integrate space operations with information operations to improve command and control of all air forces executing the campaign, said Col. Bob Grosvenor, CAOC director.

And, for JEFX '99, air forces refer to all the services – Army, Navy, Air Force and Marines – not just the Air Force, added U.S. Navy Capt. Bob Buehn, deputy director of the CAOC.

"The major reason we're here is to experiment with command and control," Grosvenor said. "With that in mind, there are a couple of key ideas we are experimenting on."

The first key idea ties directly in with the future of warfighting and the Air Force's Expeditionary Air Force. "The experiment is using a minimum amount of forward presence – both in personnel and equipment, with the maximum amount of information exchange from the operations support center," Grosvenor said.

This deployment of a smaller forward presence wouldn't be possible without collaborative tools.

"Collaboration in the virtual world is a major part of the CAOC," Grosvenor said. "While we may be physically here, with the headsets and computers we can meet in the virtual world to gather information, form strategies and make decisions."

"The idea is if we can do it here then this can be expanded to everywhere," Buehn added. "We may be 10 feet apart here but in the future, we could be on the other side of the world."

The second key idea revolves around command and control of the experiment's "live-fly" portion at Nellis Air Force Base, Nev., which is more than 1,900 miles away from the CAOC.

"It's necessary that the people who are flying the aircraft assess whether or not (the CAOC) can effectively control flying missions when we aren't there to see them," Grosvenor said.

This aspect of command and control is becoming increasingly important as deployments, various conflicts and warfighting efforts world wide make it harder on today's smaller forces to have large CAOCs at each place.

"The warfighters of today can't be just gunslingers," Buehn said. "The pilot who is flying the aircraft doesn't have the overall picture of the battlespace or all the information to carry out that particular mission or move on to a different target."

"Today's warfighters are dependent on current information and secure and reliable communication," Grosvenor said. "(At the CAOC) we're trying to assess which systems and processes will work best in the years to come."

Battlelab (Continued from Page 1)

displays and smaller laptop computers.

According to Capt. Curtis Evans, program manager, the result is a portable workstation that supports today's command and control software, complete with a vivid 18-inch color screen and no tangled cables – all developed to fit in a convenient "suitcase."

"Initial analysis already conducted by the Battlelab has shown that airlift requirements can be significantly reduced by eliminating the large cathode-ray tube monitors, cables and other equipment currently being used in deployed command and control operations," Evans said. "To move 150 of our present workstations takes eight aircraft pallets, whereas 200 Reduced Hardware Footprint cases fit on just one pallet."

"With the compact nature of the reduced hardware strategy, you use (infrared) to communicate – we're only talking about hours to set up what used to take days," Evans added.

Another significant tool that will be shown during the JEFX takes command and control a step farther with the Speech Recognition initiative.

The concept of giving a computer orders with the human voice is not a new thing; people already use this application everyday. Commercial use of this technology has now taken place with several telephone systems. It's this same type of technology that the Battlelab will analyze in a defense setting for a command and control exercise.

If a future warfighter with an emergency situation needs to quickly identify available assets, he might only say to his computer … "Provide list of all F-15 units," and immediately the list appears on his monitor.

According to Speech Recognition program director, Maj. Eben Hughes, the Air Force Research Lab Human Engineering Division at Wright-Patterson Air Force Base, Ohio, and subcontractor, Sytronics, Inc., developed a software prototype for the Battlelab.

"We believe inserting this capability into the command and control environment will significantly reduce the workload on the operator because it's easier to use," Hughes said. With a computer that understands voice commands, input and extraction of data requires almost no keystrokes or mouse clicks. It's also much faster and allows for greater productivity – operators don't have to click through layers of menu items to get where they want to go. They merely say what they want and the computer finds it.

A very attractive property of this kind of system in a wartime situation is the fact that chemical gear can be worn by the worker, and it's still possible to accomplish the mission. After all, it would be awfully difficult to type on a keyboard wearing protective gloves.

Security forces: Keeping information secure, providing JEFX force protection

By Senior Airman J.A. Lindsey
JEFX Public Affairs

HURLBURT FIELD, Fla. – "Excuse me, sir. May I see your badge," asked Staff Sgt. Tony Lamb, of an officer walking through the compound.

"Oh, here it is. I didn't realize I still had it tucked away after lunch hour …"

Keeping security foremost in the minds of JEFX participants is the mission of Lamb, Joint Expeditionary Force eXperiment assistant security manager and 17 additional security forces augmentees here. Their main goals are to have a successful experiment, free of security incidents, including computer and information security, and force protection.

Photo by Senior Airman J.A. Lindsey

Senior Airman Eric Evans, Joint Expeditionary Force eXperiment security forces augmentee from Key Field Air National Guard Base, Meridian, Miss., checks a bag for prohibited items at the Joint Personnel Access Center entry control point at Hurlburt Field, Fla.

"In today's environment, with everyone linked on the computer network, a security incident is as simple as a person sending out a document before double checking it for classified information," Tech. Sgt. Jeff Jones, JEFX security forces chief said. "Maintaining computer security is everyone's responsibility."

The danger of sending classified information over an unclassified system poses a real threat to everyone involved in JEFX, Jones explained, because the corrupted network must go off-line until it's sanitized.

This could result in delays and missed experiment days, hindering the JEFX mission objectives – in addition to compromising real-world national security.

Another common security problem is when people try to "talk around" classified information, Jones said.

Divulging bits and pieces of secret or classified information poses a real threat to information security because the Command and Control Training and Innovation Group here is considered a high-risk unit because of the advanced technologies being evaluated, tested and considered for military use, Jones explained.

"It's up to us to ensure classified information is discussed only in secure environments, using only secure means of communication," Lamb said.

Another way to help ensure information security is to comply with JEFX security procedures by leaving electronic devices at entry control points or walking around secured areas if it's necessary to carry electronic devices.

Staying vigilant – keeping in mind Hurlburt Field is in a real-world Threatcon Alpha – could be key to preventing a serious real-world security incident. This includes keeping watch for suspicious people, packages or automobiles.

"If something doesn't look right, it probably isn't right," Jones said. "I need everyone to report such findings as soon as possible so we can check out the situation."

One way of ensuring force protection is by displaying the JEFX badge at all times while inside the experiment area and keeping it out of sight when off-site.

Another, is to submit to entry control point baggage checks. "Entry control checks are designed to protect us all," Jones said. "When conducting baggage checks, security troops are looking for classified information, which may have accidentally gathered up when leaving an area or for prohibited items that could emit electrons."

Also, as a part of real-world Threatcon Alpha security procedures, participants are asked to park only in designated parking spaces. Parking in the grass or in unauthorized areas may result in the auto being towed away at the owner's or, if a rental vehicle, the keyholder's expense.

> ***"In today's environment, with everyone linked on the computer network, a security incident is as simple as a person sending out a document before double checking it for classified information."***
>
> – Tech. Sgt. Jeff Jones
> JEFX security forces chief

Ensuring security during JEFX isn't only the job of security forces, but everyone's responsibility. It can be as simple as taking a second look at a document before sending it out over an unsecured network, reporting suspicious situations and maintaining information security when engaged in casual conversation.

Keeping security in mind is the first step in maintaining it.

News notes

In recognition

Staff Selectees

Six Joint Expeditionary Force eXperiment '99 members at Langley Air Force Base, Va., need to be recognized for selection for promotion.

The new staff sergeant selects are: Travis Clark, Tracy Henry, Patrick Kane, Paul Manrique, Rudy Moreno and Gerald Tilghman

Promotion

A Joint Expeditionary Force eXperiment member needs to be recognized for her recent promotion.

Danah Rubalcaba, a JEFX protocol officer at Hurlburt Field, Fla., was promoted to first lieutenant Thursday.

Donations

Donations are being accepted to help the victims of the Turkey earthquakes. The donations may be sent to: American Red Cross Interntional Response Fund, P.O. Box 37243, Washington, D.C., 20013. For additional information visit www.redcross.org or call (800) 435-7669.

Public affairs

The eXperiment newsletter will be published on the following dates: Aug. 31 and Sept. 3. The newsletter is also available online at the Air Force home page at www.af.mil.

JAG provides guidance in air campaign

By Capt. Todd Fleming
Aerospace Command and Control, Intelligence, Surveillance, and Reconnaissance Center Public Affairs

LANGLEY AIR FORCE BASE, Va. – Some dictators may regard international law only long enough to tape it on a bathroom wall and throw darts at it. With the United States, this is not the case. As an air campaign is executed, staff judge advocates are right where command decisions are being made and the targets are being chosen to ensure that international law and the Law of Armed Conflict is not violated.

As part of Joint Expeditionary Forces eXperiment '99, six staff judge advocates are spread out at the various forward and rear command and control centers with an additional staff judge advocate, Col. Michael McDonald, assigned to Lt. Gen. Lansford Trapp, the Joint Forces Air Component Commander, the commander responsible for executing the air campaign.

Since JEFX is an experiment that is designed to develop and field new technologies and processes, the lawyers are here to provide inputs on how they will fit into the new processes and how the technologies will affect them, said Capt. Gordon Davis, assistant staff judge advocate who is in the operations support center at Langley Air Force Base, VA.

According to McDonald, the role of the judge advocate in military operations is evolving rapidly. As we have witnessed recently, many of our activities are multilateral undertakings, involving a range of corresponding international law issues. JEFX gives us an opportunity to find ways to deliver legal support to the commander.

For example, one of the jobs of the lawyers is to look at the target lists to ensure that none of the targets will cause excessive collateral damage or violate international law. But, as new technologies allow that target list to be developed much faster and changed much closer to take off time, the lawyers need to find the right time to interject themselves into the process, said Davis.

"When it comes to target lists, we don't want to be involved too early or too late," he said. "With new technologies and the possibility of new doctrines and processes, JAGs have to figure out at what point we should enter into the process to provide the best benefit to the commander."

He explained that if JAGs are involved too early in the dynamic process, the target lists might change after they had screened targets. If they review the targets too late, a last second change could put a heavy strain on the commander. This experiment allows them to search for the right balance and the ideal spot to enter the process.

Although reviewing the target lists is an important part of their job in the command centers, the JAGs have many other functions. One of their jobs is to collaborate with the operators in briefing the rules of engagement to all of the participants, from the commanders to the pilots in the cockpit, Davis said.

"While we're giving these briefings, we receive inputs on the rules of engagement from commanders and pilots and start working to change them as necessary."

For instance, if a rule puts pilots in unnecessary jeopardy, the lawyers would work to redefine the rule without violating law.

In fact, McDonald said, the rules of engagement are shaped by considerations beyond the law. Often, policy considerations at the National Command Authority-level drive the rules of engagement. Part of our role is to assist in shaping the dialogue which can lead to changes that benefit the warfighter.

The JAGs also perform a treaty interpretation function, ensuring that everyone understands applicable treaty interpretations and the ramifications of international law.

"There are two types of international law – treaties and customs. If you do something long enough, it can become international law," said Davis. The example he used was a nation drawing a "line of death" and declaring that 50 miles into the ocean was their territorial waters and only they could have boats there. If nobody challenged that pronouncement, after a number of years, it could become international law.

Although the JAGs have important functions in military command and control, what they are primarily doing in JEFX '99, like all of the participants, is experimenting with new technologies and processes, seeing what benefit it has for them, and providing input as to how they can best fit into the big picture. They are learning what they need to do to provide the best support when the Air Force of tomorrow goes to war.

Mobility (Continued from Page 1)

more easily, and give the commander a much greater level of situational awareness over the area of engagement and in the surrounding airspace.

"We've been involved in JEFX '99 since its planning phase. We're much more involved this year and we're interested in the training this experiment is providing us and in the systems integration and processes we'll be working through over the next several days," said Col. Mike Cole, AMC detachment commander at Hurlburt Field and mobility deputy director at Langley's Operation Support Center.

"Our interest in JEFX will continue growing as this resource matures. This (experiment) is a great learning opportunity, and it helps us demonstrate the breadth of AMC missions. Most folks think of us only in terms of conventional airlift (moving people and cargo), but we do much more," Cole explained. "We are there for aerial refueling, ferrying aircraft overseas, aerial drops, air-evacs, special operations and humanitarian relief."

JEFX provides AMC with the opportunity to make sure its command and control information processing system is fully integrated with other Department of Defense command and control systems. Perfecting these systems not only saves time and money, but also keeps aircrews and aircraft safer by keeping friendly forces more aware of all air activity. For instance, it would allow a Combined Forces Air Component Commander to identify a C-130 carrying a Special Operations Force to an insertion point. The CFACC would be able to prevent friendly ground forces from firing on that C-130 as it lands close to the Forward Edge of the Battle Area. Or, if the CFACC found an enemy ground battery it could quickly notify the C-130 crew to divert and avoid enemy fire.

"By looking at and evaluating new processes and procedures we hope to develop and apply better, smarter systems and ultimately be able to send fewer people forward into a battle arena. They (JEFX participants) will be trying out, analyzing and assessing six initiatives. A priority during JEFX '99 is AMC's new Global Air Mobility Operational Display. This tool allows warfighters to track all of our aircraft," explains Lt. Col. Mike Elrod, 621st Air Mobility Operations Squadron director of operations, McGuire Air Force Base, N.J. With the click of a computer mouse, planners and schedulers will know a number of important bits of information about aircraft, missions, and schedules. AMC leaders are anxious to try out these tools and incorporate mobility into the ATO.

"We are doing this to enhance our move toward an expeditionary force with rapid global mobility; therefore, it is critical to integrate all AMC processes and technologies into the big picture," Walberg said.

Improved command and control will allow AMC resources to be used more efficiently and effectively, not just by a theater commander, but also by other commanders in nearby regions. For example, an empty C-141 leaving Saudi Arabia can easily be identified and scheduled to pick up Army troops returning home from Bosnia. This allows AMC resources to support warfighters not just in one arena, but many.

AMC leaders assigned to the Langley Air Force Base Operations Support Center like what they've seen so far. "This experiment brings all of the warfighters together," Elrod said.

"This is a rich learning environment and I think it will make the Air Force, as a whole, better."

Hurlburt shorts

Hurricane locator sheets

All personnel located at Hurlburt Field, Fla., during JEFX '99 need to fill out a Hurricane Locator Sheet. Due to Florida's hurricane season, which runs through Nov. 1, it's important this information is accurate. In the event of a hurricane, people who are caught away from their designated shelter locations must call (800) 435-9941 so they can be accounted for.

Weekend canoe trip

There is a canoe trip on Coldwater Creek beginning at 8 a.m. Saturday, Aug. 28 leaving from Bldg. 90005. The seven-mile trip down river will take approximately four hours.

The cost is $16 per person for a two-person canoe. Swimsuits and sunscreen are recommended and food and drinks may be taken on the trip; however glass containers are not allowed.

Weekend deep-sea fishing trip

A deep-sea fishing trip is from 7 a.m.-2 p.m. Sunday, Aug. 29 leaving from Bldg. 90005. The six-hour fishing trip will leave on the Sweet Jody V which is docked behind Fisherman's Wharf, Destin, Fla.

The cost is $32 per person and includes bait, reels and poles. No food will be available on the boat so sack lunches and drinks are recommended. People are encouraged to take a motion sickness medication at least one hour prior to getting on the boat if they have never been out to sea or if they know they are subject to motion sickness. Sunscreen and towels should also be brought on the trip.

Any person interested in these trips should contact Master Sgt. Dan Kuhn, the Hurlburt Field first sergeant, in trailer 11 behind Bldg. 90005 or call his work phone at 884-7204; his pager at 885-1984; or his home phone at 651-6462.

People who are working these days should contact the first sergeant who will work with them to set up activities and trips during their off-duty hours.

Hurlburt Marina

The Hurlburt Marina is open from 8 a.m.-6 p.m. weekdays and 7 a.m.-6 p.m. weekends. Boat, canoe and camping supplies are available. For more information, call 884-4097.

Navy presence demonstrates 'J' in JEFX

By Staff Sgt. Karin Wickwire
The eXperiment Editor

HURLBURT FIELD, Fla. – The U.S. Navy is getting its feet wet in the joint experimentation world with its participation in the 1999 Joint Expeditionary Force eXperiment which runs through Sept. 2.

"This year, the Navy's focus is to learn from the experiment," said U.S. Navy Capt. Bob Buehn, deputy commander of the Combined Aerospace Operations Center.

"We're interested in many of the same warfighting concerns the Air Force is, like distributed collaborative planning, and although we don't have any initiatives being tested this year there are four objectives we are focusing on during JEFX '99," Buehn said.

The first objective is to try to establish a baseline of Navy manning for this warfighting structure of a minimum forward command presence with maximum support from the rear command center, he said.

Photo by Senior Airman J.A. Lindsey

(Right) Eric Werkowitz, Air Force Research Lab, guides (seated) Lt. Cmdr. Bill Laprise, U.S. Navy, through the speech recognition initiative developed by the U.S. Air Force Command and Control Battlelab at Hurlburt Field.

Next on the list is the integration of naval "fires" into the warfighting structure, according to Buehn. Fires is a Navy term which covers all munitions such as tactical aircraft, surface ships and missiles.

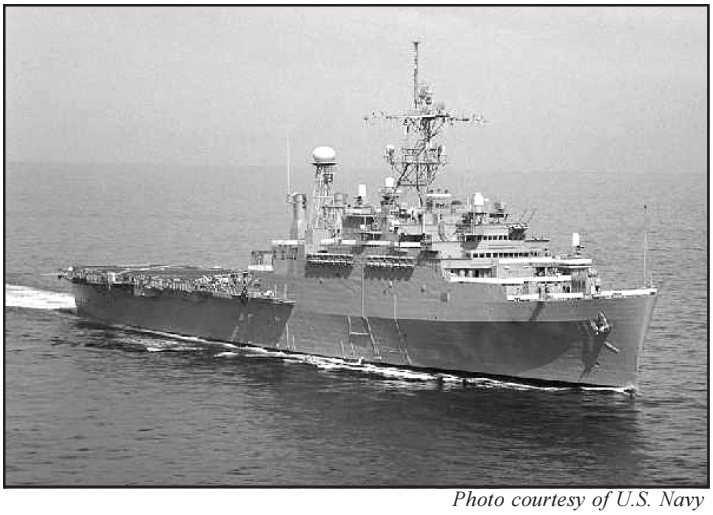

Photo courtesy of U.S. Navy

USS Coronado is a U.S. Navy command and control ship.

Integrating the Aegis cruisers into the experiment is the third objective. The Aegis cruiser is a Navy weapon system that provides both radar and weapons, he said.

"The fourth objective is investigating any joint interoperability issues, such as can our radios and satellites talk to the Air Force's equipment," the captain said. "By doing this during the experiment we can find any problems and work on them before we are placed in a wartime situation."

Working these issues is a mixture of active-duty and reserve Navy personnel who are participating from several locations.

According to Buehn, Navy pilots taking part in the "live-fly" at Nellis Air Force Base, Nev., will fly out of Naval Air Station Fallon, Nev.; sensor and weapon inputs will come from the USS Coronado, which is pier side in San Diego, and the Aegis Training Center in Dahlgren, Va.; and other players and assessors are participating at Langley AFB, Va., Nellis AFB, Nev., and Hurlburt Field.

Altogether, there are approximately 40 Navy members who are directly participating in JEFX '99; however, that number will grow significantly in 2000 for two reasons, Buehn said.

The first is because JEFX 2000 will have three Navy sponsored initiatives integrated into the experimentation process, said Brad Poeltler, Maritime Battle Center JEFX coordinator.

According to Poelter, the initiatives are:

- ❑ A sea-based Joint Forces Air Component Command with Operations Support Center reachback using Global Reach communications.
- ❑ A sea-based Dynamic Battle Control Command.
- ❑ An integrated sea-based Battle Control Cell.

And second, next year's experiment and the Navy's Fleet Battle Experiment H will be conducted simultaneously. This means there will be more interplay between the Air Force and the Navy, Buehn said.

In the years to come, the Navy will be a full partner in the experimentation process, he said.

"We have made a commitment to experimentation and working with the Air Force during JEFX for as long as the experiments continue."